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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/728,981

12/08/2003

Akihito Hanaki

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EXAMINER

SMITH, JOSHUA Y

ART UNIT

PAPER NUMBER

2609

NOTIFICATION DATE

DELIVERY MODE

08/17/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/728,981

Applicant(s)

HANAKI ET AL.

Examiner

Joshua Smith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION:

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 05/27/2004, 06/01/2007
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-7 and 9-12 rejected under 35 U.S.C. 103(a) as being unpatentable over Onoe et al. (Y. ONOE, et al., Computer Communications, vol 21, no. 14, XP-004146583, pages 1226-1243, "MEDIA SCALING APPLIED TO MULTICAST COMMUNICATIONS", September 15, 1998) in view of Hundscheidt et al. (US 2002/0085506 A1), hereafter referred to as Onoe and Hundscheidt, respectively.

As for Claim 1, Onoe teaches in page 1229, section 2.1. and section 2.1.1., and in page 1229, Table 2, of application layer levels that encode data according to QoS levels, where QoS levels are introduced into group address schemes for multicast groups, and the QoS levels are specified according to potential factors, such as network and CPU capacities (substantively the same as "a category manager configured to

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categorize reception capability values showing reception capabilities necessary for receiving multicast data" in the instant invention).

Onoe also teaches in page 1231, section 2.2., of transport layer levels that monitor multimedia flows and adjust the multimedia flows based on receiver application requirements, and, in page 1231, section 2.2.1., requirements are specified by receiver applications (substantively the same as "a reception capability collector configured to collect the reception capability values" in the instant invention).

Onoe also teaches in page 1229, section 2.1. and section 2.1.1., and in page 1229, Table 2, of application layer levels that encode data hierarchically according to QoS levels, which, as discussed above, are specified according to potential factors, such as network and CPU capacities, and where high-performance receivers belonging to QoS level 2 receive both Left + Right and Left – Right audio data, but low-performance receivers receive only Left + Right data (substantively the same as "a decider configured to decide a hierarchical structure of the multicast data from a plurality of categories corresponding to the collected reception capability values" in the instant invention).

Onoe also teaches in pages 1234-1235, section 2.4., the data link layer levels translate the QoS level of each packet into one VC, where each VC then acts as a dynamic multicast connection depending on the QoS levels of receivers (substantively the same as "a transmitter configured to transmit the multicast data using the decided hierarchical structure" in the instant invention). Onoe does not teach of mobile stations.

However, in the same field of endeavor, Hundscheidt teaches in paragraph [0012], and in FIG. 1, Sheet 1 of 4, an IP multicast scenario with a wireless first client (see item 101) and a wireless second client (see item 102), that receive packets suitable for a codec optimized for wireless environments (substantively the same as “mobile stations” in the instant invention). It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Hundscheidt with the document of Onoe since Hundscheidt provides an alternative multicasting optimization method that involves both wireless and wireline technologies, allowing the technique of Onoe to be utilized for both types of technologies and expanding the capabilities of Onoe.

As for Claim 2, Onoe teaches in page 1229, section 2.1. and section 2.1.1., and in page 1229, Table 2, of application layer levels that encode data hierarchically according to QoS levels, which are specified according to potential factors, such as network and CPU capacities, and where there are three categories of data packets, Audio, Video-JPEG, and Video-MPEG, and where high-performance receivers belonging to QoS level 2 receive both Left + Right and Left – Right audio data, but low-performance receivers receive only Left + Right data, and where QoS levels cause their respective receivers to receive specific types of Video-JPEG or Video-MPEG packets (substantively the same as “a category manager configured to categorize reception capability values showing reception capabilities necessary for receiving multicast data in the mobile stations in association with a type of the multicast data” and “a decider

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configured to decide a hierarchical structure of the multicast data from a plurality of the categories" in the instant invention).

Onoe also teaches in pages 1234-1235, section 2.4., the data link layer levels translate the QoS level of each packet into one VC, where each VC then acts as a dynamic multicast connection depending on the QoS levels of receivers (substantively the same as "a transmitter configured to transmit the multicast data using the decided hierarchical structure" in the instant invention). Onoe does not teach of mobile stations.

However, in the same field of endeavor, Hundscheidt teaches in paragraph [0012], and in FIG. 1, Sheet 1 of 4, an IP multicast scenario with a wireless first client (see item 101) and a wireless second client (see item 102), that receive packets suitable for a codec optimized for wireless environments (substantively the same as "mobile stations" in the instant invention). The motivation to combine the invention of Hundscheidt with the document of Onoe is discussed above with respect to Claim 1.

As for Claim 3, Onoe teaches in page 1231, section 2.2., of transport layer levels that monitor multimedia flows and adjust the multimedia flows based on receiver application requirements, and, in page 1231, section 2.2.1., requirements are specified by receiver applications (substantively the same as "a reception capability collector configured to collect the reception capability values of the mobile stations" in the instant invention).

Onoe teaches in page 1229, section 2.1. and section 2.1.1., and in page 1229, Table 2, of application layer levels that encode data according to QoS levels, where

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QoS levels are introduced into group address schemes for multicast groups, and the QoS levels are specified according to potential factors, such as network and CPU capacities (substantively the same as "including information regarding the category, in accordance with the collected reception capability values" in the instant invention). Onoe does not teach of a notice information transmitter to transmit notice information.

However, in the same field of endeavor, Hundscheidt teaches in paragraphs [0091] and [0092] of a generated table that includes information from which the number of recipients per sub-branch, along with their associated metric(s), can be determined, and where this information can be multicast to a Subgroup of recipients (substantively the same as "a notice information transmitter configured to transmit notice information" in the instant invention). The motivation to combine the invention of Hundscheidt with the document of Onoe is discussed above with respect to Claim 1.

As for Claim 4, Onoe teaches in page 1229, section 2.1. and section 2.1.1., and in page 1229, Table 2, of application layer levels that encode data according to QoS levels, which are specified according to potential factors, such as network and CPU capacities, and where there are three categories of data packets, Audio, Video-JPEG, and Video-MPEG, and where high-performance receivers belonging to QoS level 2 receive both Left + Right and Left – Right audio data, but low-performance receivers receive only Left + Right data, and where QoS levels cause their respective receivers to receive specific types of Video-JPEG or Video-MPEG packets.

As for Claim 5, the references as applied to Claims 2 and 3 teach the limitations except a notice information judger to judge whether or not the notice information should be transmitted in accordance to presence information and to instruct the notice information transmitter to transmit the notice information in accordance with the judgment. Hundscheidt further teaches in paragraphs [0093], [0094], and [0095], and in FIG. 2, Sheet 2 of 4, of a multicast router that performs a recursive process in which it is determined that a message is multicast to only a certain number of hosts, and the multicast router will send the message to hosts that are close enough to the sender, but the multicast router will not send the message to hosts too far away from the sender. The motivation to combine the invention of Hundscheidt with the document of Onoe is discussed above with respect to Claim 1.

As for Claim 6, the references as applied to Claims 1 and 2 teach the limitations except where the transmitter transmits the multicast data in accordance with a transmission request from the mobile stations. Hundscheidt further teaches in paragraphs [0089], [0090], [0091], and [0092], that a host can trigger the counting and eventual multicasting of information through a request. The motivation to combine the invention of Hundscheidt with the document of Onoe is discussed above with respect to Claim 1.

As for Claim 7, the references as applied to Claims 1 and 2 teach the limitations except reception capability value of the mobile stations is defined by at least one of a demodulation method, a reception buffer size, a processing capability, a decoding method, a interleaving length, a number of despreaders and a number of decoders. Onoe further teaches in page 1229, section 2.1.1., CPU capacities, and, in page 1235, section 2.4., buffer space consumption.

Claim 9 appears to contain limitations in Claim 1, addressed above.

As for Claim 10, Onoe teaches in page 1229, section 2.1. and section 2.1.1., and in page 1229, Table 2, of application layer levels that encode data according to QoS levels, where QoS levels are introduced into group address schemes for multicast groups, such as network and CPU capacities, and receivers belong to one of the groups (substantively the same as "a category to which a reception capability value of the ... station belongs" and "category" in the instant invention):

Onoe also teaches in page 1229, section 2.1. and section 2.1.1., and in page 1229, Table 2, of transmitted data that is encoded hierarchically according to QoS levels, is received by multicast groups, and each receiver receives packets based on the hierarchically encoded data (substantively the same as "a receiver configured to receive the multicast data transmitted using a hierarchical structure" in the instant invention).

Onoe also teaches in page 1234, section 2.3., QoS levels in filters for each QoS type (substantively the same as “a selector configured to select multicast data corresponding to the category ... from among the received multicast data” in the instant invention). Onoe does not teach of a category memory configured to store.

However, in the same field of endeavor, Hundscheidt teaches in paragraph [0003], information stored at one location to be distributed to one or more users situated at geographically different locations (substantively the same as “memory configured to store” and “stored in the ... memory” in the instant invention).

Hundscheidt also teaches in paragraph [0012], and in FIG. 1, Sheet 1 of 4, an IP multicast scenario with a wireless first client (see item 101) and a wireless second client (see item 102), that receive packets suitable for a codec optimized for wireless environments (substantively the same as “mobile stations” in the instant invention). The motivation to combine the invention of Hundscheidt with the document of Onoe is discussed above with respect to Claim 1.

As for Claim 11, the references as applied to Claims 3 and 10 teach the limitations except for being updated in accordance with information transmitted. Hundscheidt teaches in paragraph [0109], of clients receiving updated information from the service environment in real time and the need of servers being synchronized. The motivation to combine the invention of Hundscheidt with the document of Onoe is discussed above with respect to Claim 1.

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As for Claim 12, the references as applied to Claims 3 and 10 teach the limitations except transmitting a transmission request for multicast data. Hundscheidt further teaches in paragraphs [0089], [0090], [0091], and [0092], that a host can trigger the counting and eventual multicasting of information through a request. The motivation to combine the invention of Hundscheidt with the document of Onoe is discussed above with respect to Claim 1.

Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Onoe et al. in view of Hundscheidt, and in further view of Lundby (Patent No.: US 6,856,604 B2), hereafter referred to as Lundby.

As for Claim 8, the references as applied to Claims 1, and 2 teach the limitations except a structure defined by at least one of a coding rate, a number of repeating bits, a number of thinned bits, an interleaving length, a number of multiplexed codes, a number of information blocks, a modulation method, a coding method and transmission power. However, in the same field of endeavor, Lundby teaches in lines 53-54, column 4, of parameters of a data transmission including modulation, coding, and power. It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Lundby with the document of Onoe since Lundby provides an alternative multicasting optimization method that involves wireless technologies, allowing the technique of Onoe to expand into wireless markets and provide efficient wireless multicasting to those users.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Smith whose telephone number is 571-270-1826. The examiner can normally be reached on Monday through Friday, 7:30 AM to 5:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Garber can be reached on 571-272-2194. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joshua Smith

A handwritten signature in black ink, appearing to read "Joshua Smith", is located in the bottom right corner of the page.